

## **REMARKS**

Please reconsider the rejections of the claims in light of the following arguments and allow the pending claims.

Applicants thank the Examiner for the personal interview granted on July 8, 2003. As suggested during the interview, Applicants have amended claims 1, 9 and 12 and canceled claims 2 and 5 to clarify that the polymer fibers in the various embodiments of the present invention are arranged in a predefined non-random pattern so that each adjacently-located individual fiber does not overlap itself and contacts no more than a certain number of adjacently-located individual fibers in order to distinguish the claimed pattern from that of a prior art scrim. This amendment is slightly different from the one proposed during the interview in that "adjacently-located" has been added to more clearly define the limitation. Applicants have also modified the proposed limitation to read, "contacting no greater than four adjacently-located individual fibers" instead of "contacting no more than two adjacently-located individual fibers", after additional consultation with the inventors and review of the specification for support to more particularly claim the embodiments of Figures 3 and 4. The concept of contacting no more than two adjacently-located individual fibers as discussed during the interview is now set forth in new dependent claims 15, 16 and 17. Applicants have also added new claim 18.

These amendments do not introduce new matter. Specifically, Figures 3 and 4 and page 13, lines 13-24 of the present application supports the amendments and new claims being presented.

The Examiner had rejected claims 1-4 and 6-11 under 35 U.S.C § 102(b) as being anticipated by U.S Patent No. 5,560,974 to Langley and claims 5 and 12-14 under 35 U.S.C § 103(a) as being unpatentable over Langley in view of U.S. Patent No. 5,316,836 to Heindel, *et al.*

Applicants have mooted the rejections to Langley and Langley in view of Heindel in light of the amended claims. Neither Langley nor Heindel teach or suggest the limitations of wherein each of said individual polymer fibers does not overlap itself and contacts no more than four other adjacently-located individual polymer fibers. These references, at most, teach the formation of a scrim which has individual polymer fibers contacted by many adjacently-located individual polymer fibers in order to form a checkerboard-like pattern as demonstrated during the interview.

The present invention results in improved physical characteristics due to the unique overlapped bonding pattern of the individual fibers. The degree of fiber overlap, the particular patterns employed and the orientation characteristics of the fibers assist in defining the desired characteristics in the inventive webs and laminates. In particular, by controlling the number of adhesive fiber streams per unit width, the frequency of the waves resulting from the fiber production process, the orientation of the fibers, and the speed of lamination, various characteristics such as tensile strength, elasticity and loft can be improved.

In certain embodiments of the present invention, the bulk or softness of the laminate is controlled by providing for zones of enhanced loft in the bonded laminate. In particular, meltsprayed fibers can be formed into interlocking cell-type arrays. The use of wave-shaped oscillating fiber sprays produce polymer streams that interlock after

being sprayed to form an open, cell-like netting structure in the adhesive layer that bonds adjacent laminate layers together. The controllability of the cell shape by employing the claimed fiber overlapping characteristics allows for specific, customized adhesive patterns to be made, thus resulting in the alteration of particularly chosen properties in the laminate structure.

For example, Figure 2 of the present application shows a single adhesive fiber strand and illustrates various characteristics that may be varied in order to obtain the desired traits in the predefined non-random patterns utilized in the present invention. As shown in Figure 2, the length "L" between peaks of the fiber strand may be considered the frequency of the oscillating wave of the fiber strand. The width "W" from the bottom of a peak to the top of the peak is also illustrated. In order to obtain optimum performance of the adhesive bonding pattern, the bonding fibers may have their frequencies (or lengths "L") varied, their widths "W" varied, or the ratio of L to W ( $L/W$ ) varied. Figures 3 and 4 of the present application show examples of adhesive bonding patterns that are obtained by adjusting the frequency and width of the individual fibers (according to Figure 2) to provide a laminate having improved tensile strength, elasticity and loft.

Unlike prior art scrim patterns, such as those mentioned in Langley in which one fiber touches many fibers (*e.g.* more than four), where a checkerboard-like pattern is formed, and unlike Heindel, wherein a semi-cycloidal fiber overlaps itself many times, the presently claimed pattern has fibers that do not overlap themselves and contact no more than four other fibers.

In sum, in view of the foregoing arguments, we respectfully submit that the rejected claims are patentably distinct over the references cited by the Examiner and meet all other statutory requirements. We believe that the present Application is now in complete condition for allowance and, therefore, respectfully request the Examiner to reconsider the rejections in the Office Action and allow this Application. The Commissioner is hereby authorized to charge any additional fees, which may be required to Deposit Account 50-2548.

We invite the Examiner to telephone the undersigned should any issues remain after the consideration of this response.

Respectfully requested,

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